WHAT IS CLAIMED IS:

1. A process for manufacturing a multilayer flexible wiring board by laminating at least two flexible wiring board pieces having a base film including a resin film and a metal wiring provided on said base film, said process comprising applying ultrasonic wave to said metal wirings of said flexible wiring board pieces to be laminated in close contact with each other at their surfaces to bond said metal wirings.

2. A process for manufacturing a multilayer flexible wiring board by bonding metal wirings of at least two flexible wiring board pieces having a base film including a resin film and a metal wiring provided on said base film, said process comprising contacting the tip of ultrasonic resonator with the exposed opposite side of a portion to be bonded of said metal wirings of at least one flexible wiring board piece in two flexible wiring board pieces to be bonded, applying ultrasonic wave to said ultrasonic resonator to bond said two metal wirings to be bonded.

3. The process according to claim 1 wherein ultrasonic wave is applied to said metal wirings in close contact with each other at their surfaces while a thermoplastic resin layer developing adhesiveness upon heating is placed between said metal wirings.

4. The process according to claim 3 wherein said metal wirings are ultrasonically bonded and then heated to laminate said flexible wiring board pieces by the adhesion of said thermoplastic resin.

5. The process according to claim 1 wherein a metal coating selected from a metal coating based on gold, a metal coating based on silver, a metal coating based on nickel, a copper-nickel alloy coating, a coating based on aluminium, a coating based on titanium and a solder coating is preliminarily formed on at least one of the surfaces of the parts of said metal wirings to be ultrasonically bonded before said metal wirings are ultrasonically bonded.

6. The process according to claim 1 wherein ultrasonic wave is individually applied to the parts of said metal wirings to be bonded.

7. A multilayer flexible wiring board formed by laminating at least two flexible wiring board pieces having a base film and a metal wiring provided on said base film, wherein at least one flexible wiring board piece has a cover film including a resin film on said metal wiring and a first opening is provided on said cover film, and said metal wiring exists at the bottom of said first opening so that said metal wirings of said flexible wiring board pieces are bonded to each other by applying ultrasonic wave while the part of said metal wiring located at the bottom of said first

opening is in close contact with said metal wiring of the other flexible wiring board piece.

8. The multilayer flexible wiring board according to claim 7 wherein said cover film has insulating properties to prevent said connected metal wirings from contacting with each other except for the part located at said first opening.

9. The multilayer flexible wiring board according to claim 8 wherein said cover film has a thermoplastic resin layer developing adhesiveness upon heating at least on its surface.

10. The multilayer flexible wiring board according to claim 7 wherein said first opening and said metal wiring located at the bottom of said first opening form a concave, and the part of said metal wiring of the other flexible wiring board piece to be bonded to said concave forms convex on said base film.

11. The multilayer flexible wiring board according to claim 10 wherein said convex part of said metal wiring of the other flexible wiring board piece has an area smaller than the area of said first opening forming said concave.

12. A multilayer flexible wiring board formed by laminating at least two flexible wiring board pieces having a base film and

a metal wiring provided on said base film, wherein said base film of at least one flexible wiring board piece has a second opening in which said metal wiring exists at the bottom so that said metal wirings are bonded to each other by applying ultrasonic wave while said metal wiring of the other flexible wiring board piece is in close contact with said metal wiring located at the bottom of said second opening.

13. The multilayer flexible wiring board according to claim 12 wherein said base film has insulating properties to prevent said connected metal wirings from contacting with each other except for the part located at said second opening.

14. The multilayer flexible wiring board according to claim 7 wherein at least one of the surfaces of the parts of said metal wirings to be ultrasonically bonded has a metal coating selected from a metal coating based on gold, a metal coating based on silver, a metal coating based on nickel, a copper-nickel alloy coating, a coating based on aluminium, a coating based on titanium and a solder coating.

15. The multilayer flexible wiring board according to claim 14 wherein said metal wirings to be bonded to each other have the same type metal coating on their surfaces.